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Atty. Docket No.: 3135-Z

THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Dharapuram N. Srinath et al

Serial No. 10/016,131

Group Art Unit 3752

Filed: December 17, 2001

Christopher S. Kim

For: METHOD AND APPARATUS FOR GENERATION OF LOW IMPACT SPRAYS

REPLY BRIEF

MAIL STOP APPEAL BRIEF-PATENTS

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

This is in response to the Examiner's Answer mailed June 16,
2006.

Appellants reiterate the arguments made in their main brief.

Regarding claim 11 and the 35 U.S.C. 112, second paragraph, rejection, there is no double inclusion. The "means" in the claim is generic to the disclosed flow reversers and vortex valves and their reasonable equivalents. The Examiner's citation of page 6, lines 10-14 is out of context from the specification as a whole.

The contention that claim 11 is not enabled because the inventor "disclosed at most only those means known to the inventor" is not understood. How can he disclose what is not known to him?

Dealing with the Examiner's rejections of claims 1, 6, 7 and 11 being anticipated by Babich, appellants respectfully note further that in claims 1, 6 and 7, the combination of a fluid oscillator and a vortex valve "immediately upstream of said fluidic oscillator" in claim 1; or in claim 6, "a fluidic oscillator having an input coupled to a supply of liquid under pressure and a vortex valve immediately upstream of said fluidic oscillator"; or as in claim 7, "a fluidic oscillator and non-restrictor pressure reducing means coupling said oscillator to a source of liquid." In each of these claims 1, 6 and 7, the physical structure recited in the claim requires that the non-restrictor pressure reducer, whether it be a flow reverser or a vortex valve is upstream of the fluidic oscillator.

In contrast, in the Babich structure, the swirl chamber, which the Examiner is equating to appellants' flow reducer is not "upstream" of a fluidic oscillator which is coupled to a supply of liquid. At best, the output of Babich's swirl chamber feeds to

the second chamber 3 which is dimensioned so as to gain a specific acoustic oscillation harmonic emitted by nozzle 2, any liquid is fed through pipe 4 to resonator 3.

Furthermore, the specific shape and character of the droplets to be produced, e.g. their size and momentum characteristics, and how they react on the surface is a characteristic resulting from the physical structure defined in claims 1, 6, 7 and 11, and this does not flow naturally from the structures of Babich. Babich does not produce droplets of the character specified in appellants' claims.

Turning now to the Examiner's comments regarding Nekrasov, note further that claims 1, 2, 4, 6, 7 and 11 only deal with a liquid:

Claim 1 specifies a fluidic oscillator coupled to a supply of liquid under pressure;

Claim 2 specifies a fluidic oscillator connected to a source of liquid under pressure;

Claim 4 depends from claim 2 and thus has the same limitation;

Claim 6 speaks to a fluidic oscillator having an input coupled to a supply of liquid under pressure;

Claim 7 calls for a fluidic oscillator and a non-restrictor pressure reducing means coupling the oscillator to a source of liquid; and finally

Claim 11 calls for a fluidic spray nozzle connectable to a source of liquid under pressure.

Several of the claims use the term "upstream" to characterize the physical location of the non-restrictor pressure reducer, whether it be a vortex valve or a flow reverser. In claim 1, the vortex valve is located immediately upstream of the fluidic oscillator. Claim 2 recites: "a non-restrictor pressure reducer upstream of said fluidic oscillator." Claim 6 recites: "a vortex valve immediately upstream of said fluidic oscillator." Claim 7 recites a non-restrictor pressure reducing means coupling the oscillator to a source of liquid. Claim 11 calls for a spray nozzle connectable to a source of liquid. These elements find no response in Nekrasov.

In regard to claim 2, at page 15 of the Examiner's Answer, the Examiner states with regard to the Raghu patent that:

...the expansion of fluid as the fluid enters SF or 11FN causes a decrease in pressure due to the larger volume and cross section area of SF/11FN relative to the fluid source....

The fluid specified is a liquid and does not expand as contended by the Examiner.

In conclusion, the Examiner has erred in rejecting the claims and should be reversed.

Respectfully submitted,



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In the event this paper is deemed not timely filed, the applicant hereby petitions for an appropriate extension of time. The fee for this extension may be charged to Deposit Account No. 26-0090 along with any other additional fees which may be required with respect to this paper.